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10/733,187	12/11/2003	Satoshi Sumino	FUJM 20.762	8053

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EXAMINER
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ELPENORD, CANDAL

ART UNIT	PAPER NUMBER
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2609

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/733,187

**Applicant(s)**

SUMINO ET AL.

**Examiner**

Candal Elpenord

**Art Unit**

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

  
DANG T. TON  
SUPERVISORY PATENT EXAMINER

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-14, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 7, 8 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11 December 2003
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-2, 9-12 and 16-17** are rejected under 35 U.S.C. 102 (e) as being anticipated by **Wu et al. (US 7,046,629 B2)**.

**For claim 1, Wu et al.** discloses a switching apparatus for learning a source address set in a packet in an address learning table and delivering a packet on the basis of an address learned in the address learning table (**see abstract line 1-6**), the switching apparatus comprising:

(a) an address learning unit for limiting (**see paragraph 0010 line 2-5**) a number of learned addresses such that a number of learned addresses for each user group in the address learning table is equal to or less than an address learning upper limit value for the user group (**see paragraph 0011 line 8-14**).

**For claim 2, Wu et al.** discloses the switching apparatus wherein the address learning unit assigns a fixed address learning upper limit value to each user group (**see paragraph 0011 line 14-17 and line 19-22**).

**For claim 9, Wu et al.** discloses a switching apparatus wherein the address learning unit does not learn a new address (**see paragraph 0023 line 1-3**) of a user group whose number of learned addresses has reached the address learning upper limit (**see paragraph 0021 line 1-4**).

**For claims 10 and 11, Wu et al.** discloses the switching apparatus the address learning unit overwrites an address that is learned in the address learning table for a user group whose number of learned addresses has reached the address learning upper limit value (**see paragraph 0021 line 2-4**) with a new address of the user group (**see paragraph 0028 line 1-4**).

**For claim 12, Wu et al.** discloses a switching apparatus for learning a source address set in a packet in an address learning table (**see Fig. 3 box 31**) and delivering the packet on the basis of an address learned in the address learning table, the switching apparatus comprising:

(a) an address learning unit for limiting a number of learned addresses on the basis of a total number threshold value (**see paragraph 0010 line 2-5**) and an individual guaranteed value set for each user group, so as not to allow increase in a number of learned addresses for a user group which number in the address learning table exceeds the individual guaranteed value when the total number of learned addresses learned in the address learning table reaches the total threshold value (**see paragraph 0010 line 5-15**).

**For claims 16 and 17, Wu et al.** discloses the switching apparatus wherein the address learning unit records the number of addresses learned (**see paragraph 0019 line 1-5**) in the address learning table (**see paragraph 0022 line 1-3 and Fig.2 box 13**)

3. **Claim 14** is rejected under 35 U.S.C. 102 (e) as being anticipated by **Ohnishi et al. (US 2003/0031190 A1)**.

**For claim 14, Ohnishi et al.** discloses a switching apparatus (**see Fig.3 box 14**) for learning a source address set (**See Fig.3 box 11**) in a packet in an address learning table (**see Fig. 3 box 3**) and delivering a packet on the basis of an address learned in the address learning table (**see Fig. 3 box 16**), the switching apparatus comprising:

(a) an address learning unit for, on the basis of a total number threshold value and an individual guaranteed value set for each user group (**see paragraph 0059 line 1-9**), marking an address learned in the address learning table for a user group whose number of learned addresses exceeds the individual guaranteed value at a time of learning the new address, and overwriting the marked address (**see paragraph 0060 line 1-4**) with a new address of a user group whose number of learned addresses is less than the individual guaranteed value when a total number of currently learned addresses reaches a maximum number of addresses learnable in the address learning table (**see paragraph 0038 line 18-22**).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2609

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 3-6 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wu et al. (US 7,046,629 B2)** in view of **Ohnishi et al. (US 2003/0031190 A1)**.

For **claims 3-6**, **Wu et al.** teaches all the subject matter of the claimed invention with the exception of the switching apparatus wherein the address learning unit sets a value for equally allocating a maximum number of addresses learnable to all user groups as the address learning upper limit value for each user group as recited in **claim 3**, a switching apparatus wherein the address learning unit sets a fixed value greater than a value for equally allocating a maximum number of addresses learnable in the address learning table to all user groups as the address upper limit value for each user group as recited in **claim 4**, and a switching apparatus wherein the address learning unit dynamically calculates a value for equally allocating a maximum number of addresses learnable in the address learning table and sets the value as the address learning upper limit value as recited in **claim 5**, a switching apparatus wherein the address learning unit sets the address learning upper limit value for each user group on

Art Unit: 2609

the basis of subscription managing information for each user group as recited in **claim 6**. In an analogous art, **Ohnishi et al.** discloses a switching apparatus (**see Fig. 3 box 14**) wherein the address learning (**see Fig. 3 box 3**) unit sets a value for equally allocating a maximum number of addresses learnable to all user groups as the address learning upper limit value for each user group (**see Fig.3 box 10 and paragraph 0037 line 6-17**), a switching apparatus wherein the address learning unit sets a fixed value greater than a value for equally allocating a maximum number of addresses learnable in the address learning table to all user groups a the address upper limit value for each user group (**see paragraph 0038 line 4-16**), a switching apparatus wherein the address learning unit dynamically calculates a value for equally allocating a maximum number of addresses learnable in the address learning table and sets the value as the address learning upper limit value (**see paragraph 0070 line 1-6**), a switching apparatus wherein the address learning unit sets the address learning upper limit value for each user group on the basis of subscription managing information for each user group (**see paragraph 0075 line 1-8**) Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the network apparatus as taught by **Ohnishi et al.** into the method for controlling number of learned addresses in an address table of **Wu et al.** to prevent flooding. The network method of **Ohnishi et al.** can be combined/implemented into the network method for controlling the number of learned addresses in an address learning table within a switch of **Wu et al.** through program software by network management. The motivation being that it provides a fair allocation and utilization of network resources.

**For claim 13, Wu et al and Ohnishi et al.** fail to disclose the switching apparatus wherein the individual guaranteed value is identical for all the user groups, and a value obtained by adding together a value obtained by multiplying a value obtained by subtracting 1 from a total number of user groups by the individual guaranteed value and the total number threshold value does not exceed a maximum number of addresses learnable in the address learning table. However, the switching apparatus wherein the individual guaranteed value is identical for all the user groups, and a value obtained by adding together a value obtained by multiplying a value obtained by subtracting 1 from a total number of user groups by the individual guaranteed value and the total number threshold value does not exceed a maximum number of addresses learnable in the address learning table is well-known in the art. Thus it would have been obvious to one skilled in the art at the time of the invention to derive the switching apparatus as claimed through the use of software programming. The methods for controlling the number of addresses learned in an address table of a switch of **Wu et al. and Ohnishi et al.** can be modified through software programming in order to produce the claimed invention. The motivation being that it provides a fair utilization of the switching apparatus bandwidth.

***Allowable Subject Matter***

7. **Claims 7-8 and 15** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **Kusayanagi et al. (US 2003/0123462 A1)**, **Kanakubo et al. (US 7,158,519 B2)** and **Murase et al. (US 2001/0028651 A1)** are cited to show methods of controlling learned addresses in a switching apparatus.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candal Elpenord whose telephone number is (571) 270-3123. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/733,187

Page 9

Art Unit: 2609

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